

IN THE SPECIFICATION

Please replace the paragraph at page 7, lines 2-10, with the following rewritten paragraph:

Further, a pulsing electric discharge is generated between the casting cavity periphery D' and the hard electrode 31. Thereby, as shown in Fig. [[3B]] 4, by means of energy of the electric discharge, the casting cavities [[P]] D are removed and a recess portion 39 can be formed on the peripheral surface of the cylinder main body 37. Meanwhile, when generating the pulsing discharge, the electrode, as being integral with the processing head 21, is reciprocated in the Z-axis direction by a small travel distance by means of a drive of the Z-axis servo-motor 23.

Please replace the paragraph at page 12, lines 6-12, with the following rewritten paragraph:

After finishing the (2-3) molding first deposition step, by means of driving the X-axis servo-motor 9 and the Y-axis servo-motor 11, the table 7 is moved in the X-axis direction and the Y-axis direction to position the cylinder main body 37 so that the deposition 47 is opposed to the hard electrode 31. Meanwhile, there may be a case where the table 7 is only necessary to be moved in any of the X-axis direction and the Y-axis direction.

Please replace the paragraph at page 12, lines 24-30, with the following rewritten paragraph:

After finishing the (2-4) defect removal thin film step, by means of driving the X-axis servo-motor 9 and the Y-axis servo-motor 11, the table 7 is moved in the X-axis direction and the Y-axis direction to position the cylinder main body 37 so that the thin film 47a in the deposition 47 is opposed to the molded electrode 25. Meanwhile, there may be a case where

the table 7 is only necessary to be moved in any of the X-axis direction and the Y-axis direction.

Please replace the paragraph at page 14, lines 1-10, with the following rewritten paragraph:

After finishing the (2-5) (2-6) excessive deposition removal step, the cylinder main body 37 is removed from the jig 17 and set at a predetermined position of the heat treatment furnace 43. Further, as shown in Fig. 13, the deposition group 49 accompanying the cylinder main body 37 is kept at a high temperature in a vacuum or in the air by means of the heat treatment furnace 43. Thereby, a heat treatment can be processed with respect to the deposition group 49 so as to progress diffusion bonding among the particles at the interior of the deposition group 49 and the production of the cylinder 45 as the metal product is finished.

Please replace the paragraph beginning at page 16, line 37 to page 17, line 5, with the following rewritten paragraph:

After finishing the (3-4) thin film step, the (3-3) deposition step and the (3-4) thin film step are alternately repeated. Thereby, as shown in Fig. 15, thin films 47a are generated on the surfaces of the respective layers of the depositions 47 and the deposition group 53 composed of the plural layers of the depositions 47 can be formed at the recess portion 39 by means of energy of the electric discharge.

Please replace the paragraph at page 18, lines 2-11, with the following rewritten paragraph:

After finishing the (3-5) excessive deposition removal step, the cylinder main body 37 is removed from the jig 17 and set at a predetermined position of the heat treatment furnace

43. Further, as shown in Fig. 17, the deposition group [[49]] 53 accompanying the cylinder main body 37 is kept at a high temperature in a vacuum or in the air by means of the heat treatment furnace 43. Thereby, a heat treatment can be processed with respect to the deposition group 53 so as to progress diffusion bonding among the particles at the interior of the deposition group 53 and the production of the cylinder 51 as the metal product is finished.

Please replace the paragraph at page 18, lines 12-15, with the following rewritten paragraph:

Here, the temperature and the period of time are 20 minutes at a high temperature of 1050 degrees C and subsequently 4 hours at a high temperature of 760 degrees C in a case where the deposition group [[49]] 53 is composed of a nickel alloy or a cobalt alloy.

Please replace the paragraph at page 19, lines 29-31, with the following rewritten paragraph:

Moreover, because the deposition group 53 has the thin films [[41a]] 47a, 53a composed of the structures of high density, permeation of fluid out of the interior of the cylinder 51 can be suppressed.

Please replace the paragraph beginning at page 20, line 36 to page 21, line 6, with the following rewritten paragraph:

The joining method of the metal components in accordance with the fourth embodiment is a method for joining the pair of the metal components 57, 59 and employing the electric spark machine 1, the molded electrode 27 and the heat treatment furnace 43 as described above. Further, the joining method of the metal components in accordance with the

fourth embodiment is provided with a (4-1) butting step, a (4-2) deposition step, and a (4-3) heat treatment step as described below.

Please delete the last two paragraphs at page 23, lines 23-31 in their entirety and insert therefor the following new replacement paragraphs:

As described above, the invention has been described above by reference to several preferable embodiments, however, the scope and the right of the appended claims should not be limited to these embodiments.

Moreover, the contents of Japanese Patent Applications No. 2003-167025 and No. 2003-167074, both filed with the Japan Patent Office on June 11, 2003, are incorporated herein by reference in their entirety.